

STATE OF UTAH  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING  
355 West North Temple  
3 Triad Center, Suite 350  
Salt Lake City, Utah 84180-1203  
Telephone: (801) 538-5340

NOTICE OF INTENTION TO COMMENCE MINING OPERATIONS  
and  
MINING AND RECLAMATION PLAN

Based on Provisions of the Mined Land Reclamation Act, Title 40-8, Utah Code Annotated 1953, General Rules and Regulations and Rules of Practice and Procedures, By Order of the Board of Oil, Gas and Mining.

Mine Name: SDL Project Mine Plan Date: March 3, 1986  
File No.: ACT/        /        Date Received:                       
Operator:                                      DOGM Lead Reviewer:                       
Mineral(s) to be Mined: Not applicable

Please attach other sheets as needed and include cross-reference page numbers when used.

1. Name of Applicant or Company: M. C. Godbe, III  
Corporation ( ) Partnership ( ) Individual (X)
2. Address: Permanent: 1012 Newhouse Building  
Salt Lake City, UT 84111  
Temporary:
3. Company Representative: Name: same  
Title:                                       
Address:                                      Phone:
4. Location of Operation: County(ies) Millard (see Map U36U-271e, attached)  
Township(s):                      Range(s):                      Section(s):                       
Township(s):                      Range(s):                      Section(s):                       
Township(s):                      Range(s):                      Section(s):
5. Owner(s) of record of the surface area within the land to be affected:

Name:	<u>U. S. Government</u>	Address:	<u>                                    </u>
Name:	<u>State of Utah</u>	Address:	<u>                                    </u>
Name:	<u>                                    </u>	Address:	<u>                                    </u>
Name:	<u>                                    </u>	Address:	<u>                                    </u>

6. Owner(s) of record of the minerals to be mined:

Name:	<u>U. S. Government</u>	Address:	_____
Name:	<u>State of Utah</u>	Address:	_____
Name:	_____	Address:	_____
Name:	_____	Address:	_____

7. Owner(s) of record of all other minerals, including oil and gas, within any part of the land to be affected:

Name:	<u>U. S. Government</u>	Address:	_____
Name:	<u>State of Utah</u>	Address:	_____
Name:	_____	Address:	_____

8. Have the above owners been notified in writing? ☒ Yes, ☐ No. If no, why not? \_\_\_\_\_

9. Have you or any other person, partnership or corporation associated with you received an approval of a Notice of Intention to Commence Mining Operations by the State of Utah for operations other than described herein? ☐ Yes, ☒ No. If yes, list all approval numbers now under surety:

_____	_____	_____
_____	_____	_____
_____	_____	_____

10. Source of Operator's legal right to enter and conduct operations on the land to be covered by this Notice: Mining claims located under Mining Law of 1872, Federal Prospecting Permits, State Mineral Leases as Owner and Agent for others.

11. Give the names and mailing addresses of every principal Executive, Office, Partner (or person performing a similar function) of Applicant:

	Name	Title	Address
A.	<u>Same</u>	_____	_____
B.	_____	_____	_____
C.	_____	_____	_____
D.	_____	_____	_____

12. Has the Applicant, any subsidiary or affiliate or any person, partnership, association, trust or corporation controlled by or under common control with the Applicant, or any person required to be identified by Item 11 ever had an approval of a Notice of Intention to Mine or Explore withdrawn or has surety relating thereto ever been forfeited? ( ) Yes, (x) No.

If yes, please explain: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Please note: Section 40-8-13 of the Act provides that information relating to the location, size or nature of the deposit, and marked confidential by the Operator, shall be protected as confidential information by the Board and the Division and not be a matter of public record in the absence of a written release from the Operator, or until the mining operation has been terminated as provided in Subsection (2) of Section 40-8-21 of the Act. This material should be so marked and included on separate cross-referenced sheets.

13. All maps and plans prepared for submission shall be of adequate scale and detail to show topographic features and clearly indicate the following details: reference Map Nos. U36U-271e, U36U-394 and U36U-351, attached hereto.

- A. Location and delineation of the extent of the land previously affected, as well as the proposed surface disturbance.
- B. Existing active or inactive, underground or surface mined areas.
- C. Boundaries of surface properties, including ownership.
- D. Names and locations of:
  - (1) Lakes, rivers, streams, creeks and springs.
  - (2) Roads, highways and buildings.
  - (3) Active or abandoned facilities.
  - (4) Transmission lines within 500 feet of the exterior limits of land affected.
  - (5) Gas and/or oil pipelines.
  - (6) Site elevation.
- E. Drainage patterns of land affected:
  - (1) Overburden or topsoil removal and storage areas.
  - (2) Areas susceptible to erosion.
  - (3) Natural waterways.
  - (4) Constructed drainages, diversions, berms and sediment ponds (design calculations shall be included).
  - (5) Receiving waters (State Health classification).
  - (6) Directional flow of all surface waters (indicated by arrows).
- F. Known drill holes:
  - (1) Location.
  - (2) Status.

- (3) Depths and thicknesses of:
  - a. Water bearing strata.
  - b. Mineral deposits.
  - c. Toxic or potentially toxic materials.
  - d. Surficial or plant supporting material (topsoil and subsoil).
- G. Locations of disposal and stockpile areas: (not applicable)
  - (1) Topsoil and subsoil storage areas.
  - (2) Overburden storage area.
  - (3) Waste, tailings, rejected materials.
  - (4) Raw ore stockpile(s).
  - (5) Tailings-ponds and other sediment control structures.
  - (6) Discharge points, water effluents (see #15[D]).

All maps should have a color code or other suitable legend used in preparation to clearly indicate surface features of the land affected. A general reference map completed on a 7.5 (1:24,000) USGS quadrangle sheet is recommended with additional large scale maps included for practical delineation of individual facilities, (e.g., 1:200, 1:500).

14. Acreage to be disturbed:

- A. Minesite (operating, storage, disposal areas, etc.): refer to paragraphs 8-1 through 8-4 on page 7 of attached Memorandum
  - B. Access/haul roads/conveyors: refer to paragraphs 7-2 through 7-5 on pgs. 5&6
  - C. Associated on-site processing facilities: not applicable of attached  
Memorandum
15. Describe mining method to be employed, including: refer to dike description in Sec. 2 on pages 2 and 3 of attached Memorandum.
- A. Mining sequence:
    - (1) Map delineating the yearly sequential disturbance (if surface mine) and/or surficial disturbance.
    - (2) Narrative (including on-site processing or mineral treatment):

Attach supplemental sheets and/or diagrams as necessary with cross reference to page number here: \_\_\_\_\_.

\*Stratigraphic or lithologic logs if correlated to footage depths may be presented when labeled (maps or logs should be labeled confidential, if so desired).

B. If sedimentary deposit seam(s):

(1) Thickness(es): \_\_\_\_\_

(2) Dip: \_\_\_\_\_

(3) Outcrop: \_\_\_\_\_

C. Will any underground workings or aquifers be encountered? ( ) Yes, (X) No. If yes, describe potential impacts and protection measures to be taken: \_\_\_\_\_

D. Describe any active discharge or proposed discharge of water from mine or site area. Include water quality data and lab test reports. If attached sheets or reports are included, cross reference to page number here: None.

16. Have all necessary water rights been appropriated? (X) Yes, ( ) No. How will water be obtained? Please explain: Application No. 69-74 (A61210)

State of Utah Water Rights Section, Office of State Engineer.

refer to paragraph 9 on

17. Proposed or estimated duration of mining operation: page 7 of attached Memorandum  
Will the permit term be for a lesser amount of time, subject to review? (e.g., for surety estimate reasons). ( ) Yes, ( ) No. If yes, how long?

18. Describe the construction and maintenance of access roads including:

A. Procedures (drainage and erosion control methods).

B. Cross section(s).

C. Profile(s) of proposed road grade(s).

refer to paragraphs 7-2 through 7-5 on pages 5 and 6 of attached Memorandum.

Attach supplemental diagrams and cross reference to page number here: \_\_\_\_\_.

19. Prior land use(s): uninhabited lake basin not useable for grazing or agriculture

Current land use(s): as above

Possible projected or prospective future land use(s): as above

20. Describe methods of tree and brush removal: Due to high saline contact,  
the Sevier Lake basin does not support any vegetation.

Provide estimate of, and method of obtaining existing vegetation cover (%):

What types of dominant vegetation are present? None on lake basin  
shore line edge and surrounding adjacent lands supports a meager  
mixed shrub-grass community.

Photographs and/or maps may be attached to these forms, cross reference to  
page number here: \_\_\_\_\_.

21. Soils (surficial plant supportive material) and overburden: Except where  
slope or rocky terrain make it impossible, all surficial materials  
suitable as a growth medium shall be removed, segregated and stockpiled  
according to its ability to support vegetation (as determined by soil  
analysis and/or practical revegetation experience) prior to any major  
excavation. (Suggested minimum requirements are the top six inches, or  
the "A" horizon, whichever is larger.)

- A. What is the pH range of the soil before mining? Not applicable  
Name of person or agency and method of determining pH: pH values on  
subsurface brines from the lake basin have been determined by UGMS  
Attach lab report if available. Cross reference page number  
here: available upon request. (If this is a request)  
B. Average depth of topsoil and subsoil to be stripped and stockpiled:  
unknown. Calculated volume of soil to be stockpiled: \_\_\_\_\_  
C. Describe the method for removing and stockpiling topsoil and subsoil,  
including measures to protect topsoil from wind and water erosion,  
compaction and pollutants: to conform to requirements of  
gravel permit terms (State of Utah). Refer to paragraph  
4-2 on page 4 of attached Memorandum.  
D. Describe the method for removing and stockpiling overburden.  
Describe and discuss the acidity or alkalinity (pH) or other  
characteristics which would affect revegetation: lake bottom sediments  
will not and presently do not support any vegetation. That  
area from which barrow material is derived will be handled  
under requirements of Permit terms (refer to 4-2 on page 4 of  
attached Memorandum).

- E. Rock subjected to processing such as waste rock, tailings, etc., and which is to be disposed of on- or off-site must be subjected to a toxicity analysis. The method of determination, results and suitable disposal methods must be explained in detail, including means for containment and long range stability\*: No waste rock or tailings will be created.
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22. Describe the methods used to minimize public safety and welfare hazards during and after mining operations including:

- A. Shaft, tunnel and drill hole closure. Not applicable
- B. Disposal of trash, scrap metal and wood and extraneous debris, waste oil and solvents, unusable buildings and foundations, sewage and other materials incident to mining. see \*\* below
- C. Posting of appropriate warning signs and/or fences or berms to act as barriers (e.g., above highwalls) in locations where public access is available.

\*\*refer to paragraph 7-1 on page 5 of attached Memorandum.

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\*"Toxic" means any chemical or biological or adverse characteristic of the material involved which could reasonably be expected to negatively affect ecological or hydrological systems or could be hazardous to the public safety and welfare.

23. Grading and soil redistribution. Pursuant to gravel permit requirements (State of Utah); refer to paragraph 4-2 on page 4 of attached Memorandum.

- A. Attach pre- and postmining contour cross sections, typical of regrading designs. Cross reference to page number here: \_\_\_\_\_.
- B. Describe the method(s) of overburden replacement and stabilization and highwall elimination, including: (a) slope factors; (b) lift heights; (c) compaction; (d) terracing, etc., (e) also include testing procedures: \_\_\_\_\_

- C. What method of spreading topsoil and subsoil or upper horizon material on the regraded area will be employed? \_\_\_\_\_

1. Indicate the approximate depth of soil cover after final surfacing \_\_\_\_\_ inches.
2. What tests will be performed to adequately evaluate the potential of the soil to successfully support intended revegetation? \_\_\_\_\_

3. What soil amendments or fertilizers will be needed as an aid to revegetation?

Type: \_\_\_\_\_ Rate: \_\_\_\_\_  
Type: \_\_\_\_\_ Rate: \_\_\_\_\_  
Type: \_\_\_\_\_ Rate: \_\_\_\_\_

4. What additional surface preparations will be used? Describe (a) drainage, erosion and sediment control measures; (b) maximum slope characteristics; and (c) highwall reclamation.

5. Describe methods which may be particularly applicable to waste disposal areas determined to be potential problem areas.

- D. Describe plans for either leaving or reclaiming the roads and pads associated with the operation.

refer to Section 7 on pages 5 and 6 of attached Memorandum.

24. Impoundments: All evaporation, tailings and sediment ponds; spoil piles, fills, pads and regraded areas shall be self-draining and nonimpounding when abandoned unless previously approved as an impounding facility by a lawful state or federal agency. In view of this, please describe the reclamation of all related areas in the operation and include pertinent items enumerated in C, 1-5 above.

refer to Sections 2, 3, 5 and 6 of attached Memorandum.

25. Revegetation plans: as required under Permit terms (State of Utah); refer to paragraph 4-2 on page 4 of attached Memorandum.

- A. What organization, agency or person will specifically be performing the revegetation? \_\_\_\_\_.

- B. Will the affected area be subject to livestock or wildlife grazing?  
( ) Yes, ( ) No. Will vegetation protection be needed to allow for a determination of the successful revegetation criteria outlined in the Mined Land Reclamation Act, Rule M-10(12)? ( ) Yes, ( ) No. If yes, what measures will the operator take?

- C. Will irrigation be used? ( ) Yes, ( ) No. Type: \_\_\_\_\_  
\_\_\_\_\_ For how long? \_\_\_\_\_.

- D. Test plots initiated during the early stages of mine development provide good bases from which a successful revegetation program can be adapted for later implementation. Will test plots be employed? ( ) Yes, ( ) No. If yes, describe on an additional sheet(s) and attach. Cross reference page number here and show location on facilities map: \_\_\_\_\_.
- E. Please attach a revegetation plan and schedule including:
  - 1. Species to be used.
  - 2. Rate of seed application/acre.
  - 3. Season to be planted.
  - 4. Seedbed preparation techniques.
  - 5. Planting location, slope face direction, variability, method of application, covering, etc.
  - 6. Mulch and fertilizer application, if used.
- F. Describe any other maintenance procedures which may be used, if needed, to guarantee successful revegetation:

26. Please provide a reclamation schedule including: refer to paragraph 4-2 on page 4 of attached Memorandum.
- A. Estimated time for construction. refer to Sec. 5 of attached Memorandum.
  - B. Estimated time for interim reclamation. Open
  - C. Estimated duration of the mining operation. Open
  - D. A time table for the accomplishment of each major step in the reclamation plans. Attach the schedule and cross reference to the page number here: refer to Sec. 9 of attached Memorandum.
27. A surety guarantee must be provided for the mining operation (see Rule M-5 Mined Land Reclamation Act). In calculating this amount, the Division will consider the following major steps based on the information provided in this report:
- A. Clean up and removal of structures.
  - B. Backfilling, grading and contouring.
  - C. Topsoil and subsoil redistribution and stabilization.
  - D. Revegetation (i.e., preparation, seeding, mulching, irrigation).
  - E. Labor.
  - F. Safety and fencing.
  - G. Monitoring, and reseedling if necessary.

To assist the Division, the operator may attach a list of costs and factors which would satisfy these areas. Substantiation of these factors, i.e., unit costs and how they are derived, should accompany the list. Cross reference the page number here: \_\_\_\_\_.

28. A request for a variance from specific commitments to Rule M-10 (Reclamation Standards) of the Mined Land Reclamation Act may be submitted with adequate written justification. If after presentation of information adequately detailing the situation, a determination is made that finds a portion of the rule inapplicable, a variance may be granted by the Division.

I hereby commit the applicant to comply with Rule M-10, "Reclamation Standards" in its entirety, as adopted by the Board of Oil, Gas and Mining on March 22, 1978.

The applicant will achieve the reclamation standards for the following categories as outlined in Rule M-10 on all areas of land affected by this mine, unless a variance is granted in writing by the Division.

<u>Rule</u>	<u>Category of Commitment</u>	<u>Variance Requested?</u>
M-10(1)	Land Use	_____
M-10(2)	Public Safety and Welfare	_____
M-10(3)	Impoundments	_____
M-10(4)	Slopes	_____
M-10(5)	Highwalls	_____
M-10(6)	Toxic Materials	_____
M-10(7)	Roads and Pads	_____
M-10(8)	Drainages	_____
M-10(9)	Structures and Equipment	_____
M-10(10)	Shafts and Portals	_____
M-10(11)	Sediment Control	_____
M-10(12)	Revegetation	_____
M-10(13)	Dams	_____
M-10(14)	Soils	_____

I believe a variance is justified on a site-specific basis for the previous subsections of Rule M-10 as indicated. A narrative statement explaining these concerns is attached.

STATE OF UTAH

COUNTY OF SALT LAKE

I, M. C. Godbe, III, having been duly sworn depose and attest that all of the representations contained in the foregoing application are true to the best of my knowledge; that I am authorized to complete and file this application on behalf of the Applicant and this application has been executed as required by law.

Signed: \_\_\_\_\_

M. C. Godbe, III

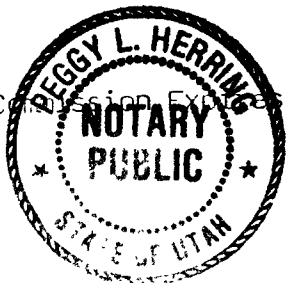
Taken, subscribed and sworn to before me the undersigned authority in my said county, this 3<sup>rd</sup> day of March, 1986.

Notary Public: \_\_\_\_\_

Peggy L. Herring

My Commission Expires: \_\_\_\_\_

1-12-88





PLEASE NOTE:

Section 40-8-13(2) of the Mined Land Reclamation Act provides for maintenance of confidentiality concerning certain portions of this report. Please check to see that any information desired to be held confidential is so labeled and included on separate sheets or maps.

Only information relating to the location, size or nature of the deposit may be protected as confidential.

Confidential Information Enclosed: (x) Yes ( ) No

Maps attached to Mining Plan of Operations

Map Nos. U36U-271e  
U36U-351  
U36U-394

### MINE MAPS

1. Maps must be clear and legible contour maps or recent aerial photos. The scale should be 1 inch = 500 feet to adequately show topographic features.
2. Map sheets should be of a reasonable size, not to exceed 48 inches on a side.
3. Maps must have a title block with:
  - A. Map title.
  - B. Name and address of permittee.
  - C. Permit and amendment numbers.
  - D. Annual report period.
  - E. Scale, north arrow, contour interval, date of photography, etc.
4. All maps must show:
  - A. Legal subdivisions.
  - B. Permit area boundary clearly shown and labelled.
  - C. Amendment areas clearly shown and labelled.
  - D. Contour features.
5. The following features should all be clearly identified:
  - A. Topsoil stockpiles (numbered and with volumes).
  - B. Settling ponds and sediment control structures.
  - C. Haul roads.
  - D. Pits identified by location, name, number, etc.
  - E. Ramps (numbered).
  - F. Out-of-pit spoil dumps.
  - G. All waste disposal sites including, but not limited to:
    1. Landfill sites.
    2. Carbonaceous waste dumps.
  - H. Diversion ditches.
  - I. Monitoring sites.

COPY

M. C. GODBE, III  
1012 Newhouse Building  
Salt Lake City, Utah 84111  
(801) 532-2506

March 4, 1986

Mr. Richard B. Hall  
Directing Engineer for Dam Safety  
State of Utah  
Department of Natural Resources  
1636 West North Temple  
Salt Lake City, UT 84116-3156

Re: SDL Exploration Project,  
Millard County, Utah


In accordance with the suggestions you made at the conference in your office on Monday, March 3, 1986, please find enclosed a copy of the State of Utah's Form MR-1, Notice of Intention to Commence Mining Operations and Mining and Reclamation Plan together with a copy of the letter of transmittal of that Plan to the Division of Oil, Gas and Mining dated March 4, 1986.

I am currently taking steps to obtain an analysis of the materials in the area of the proposed barrow pits and, also, a drawing of the overflow structure which we intend to use is being prepared. This information will be transmitted to you at an early date.

We would appreciate your prompt review of the enclosed materials.

Please let me know if you have any questions or comments.

Very truly yours,



M. C. Godbe, III

/ph

0327.18

cc: Division of Oil, Gas and Mining  
State of Utah w/o enclosures

COPY

M. C. GODBE, III  
1012 Newhouse Building  
Salt Lake City, Utah 84111  
(801) 532-2506

March 3, 1986

Re: Memorandum - Mining Plan of  
Operations, SDL Project,  
Millard County, Utah

#### INTRODUCTION

Sevier Dry Lake is normally a flat, dry playa which covers approximately 130,000 acres in Millard County, Utah. Historically the lake basin has been a terminal lake hardpan since the turn of the century. Sevier Dry Lake is the terminous of the Sevier River drainage basin which covers approximately 25% of the state in southwestern Utah.

At present, the Sevier Lake basin is covered with standing surface water. This standing surface water is at an elevation of approximately 4,520 feet m.s.l. The old beach level (meander line) is at 4,523 feet m.s.l.

Surface water has been standing on the Sevier playa surface since the 1983 spring runoff period when waters from the Sevier River discharged into the basin on a continuing basis. By April of 1983 depths of 17 inches had been recorded. On June 23rd the DMAD dam collapsed adding 16,000 acre feet of additional waters to the playa basin, followed by 5,000 acre feet of water from the Gunnison Bend Reservoir when it was breached to help control flooding. Since that time runoff waters from the Sevier River have added to the surface waters here. The only loss of waters from the Sevier Dry Lake basin is through normal evaporation processes. As of July, 1985 density of surface waters at Sevier was 1.028 (3.8% dissolved solids). During this same period density of Great Salt Lake was 1.038 (5.5% dissolved solids). Surface water on the Sevier Dry Lake basin is very brackish and unfit for irrigation, culinary, potable use or animal consumption.

In order to continue exploration, development and production evaluation of the mineral resources of the Sevier Lake basin, the surface waters must be removed and/or controlled. A plan for diking off the southern portion of the basin and keeping it flooded by pumping or gravity transfer from the North Arm under controlled conditions has been devised. Once isolated from the main body of the lake, the South Bay waters will concentrate quickly to the point at which dissolved solids will crystallize out.

The necessary dike will be approximately 4 to 6 miles in length including on/off ramps and turnarounds, depending upon final alignment (see maps, including dike sections, attached).

#### ELEMENTS OF PROJECT

##### 1. PURPOSE OF DIKE

- 1-1 Demonstrate feasibility of protecting the South Arm bay of Sevier Lake from future flooding.
- 1-2 Act as a permanent surface lake water level control.
- 1-3 Physically prepare the area south of the dike for solar pond construction.
- 1-4 Operation of a simple brine system on a large scale to definitely answer many complex questions of evaporation rates and brine chemistry on an actual on site production scale.

##### 2. DIKE DESCRIPTION

- 2-1 The dike will separate Sevier Lake into two distinct bodies. It will be built at a central point in the lake basin connecting two natural spits at an existing point of construction (Section 32, Township 22 South, Range 11 West to the south 1/4 corner of Sections 11 and 14, Township 22 South, Range 12 West). Maximum proposed length of the dike is 6 miles and would include a wier structure to allow flow North to South.
- 2-2 It is estimated that the depth of the surface water (1985 data) in the constriction area would not exceed 6 feet and average less than 4 feet. As the dike alignment is perpendicular to the prevailing winds, a four (4) foot freeboard will be incorporated into the design.
- 2-3 Based upon existing drill hole data, it is classified that the surface bottom condition is primarily low strength clays common throughout the Bonneville Basin.
- 2-4 For the purposes that the dike is being built, no effort will be made to make the barrier impermeable. The amount of leakage through an earthen dike would not significantly affect the brine concentration process due to the large areas involved. As flood waters recede, the dike could be

made impermeable by the construction of a cutoff trench in the barrier dike area.

2-5 Unless lake waters recede significantly, the North face of the dike will be riprapped.

2-6 Construction fill will be imported from the bench gravels of the Cricket Mountains. An on site study will be required to determine the exact location of the material source. Cricket Mountain alluvial material is characteristically graded from coarse cobbles to fines as sand and silt. Riprap will consist of locally available course cobble material obtained through screening of the graded barrow material. It is not contemplated that quarrying will be required. No explosives will be used. Location of barrow pits is anticipated to be the W1/2SW1/4 or NE1/4NW1/4, Section 32, Township 22 South, Range 11 West, S.L.B.M. dependent upon final alignment.

2-7 Method of construction will consist of using end dump trucks and dozers to extend the dike across the lake basin. The dike is to be built in a series of lifts to allow for expected high initial settlement rates.

2-8 Dike design (refer to Map No. U36U-271e)

Crest Width	= 15 feet	Side Slopes	= 3:1
Riprap	= 1 foot	Consolidation	= 30%
Material	= import graded gravel	Max. Height	= 10 feet
		Avg. Height	= 8 feet <sup>4</sup>
Max. Length	= 31,680 feet	Total Fill	= 160,000 yd <sup>3</sup>

2-9 A wooden wier structure will be built to allow North to South brine and water movement until such time as the surface water recedes. Maximum flow South under current lake conditions would be 500 cfs.

### 3. ENGINEERING STUDY

3-1 An on site study will be required to confirm and set many details of the lake dike including:

(a) Best gravel pit barrow site.

(b) Survey elevations and dike alignment.

- (c) Evaluate any extraordinary soil conditions along the alignment.
- (d) Independent analyses of necessary freeboard dike construction methods, effects of seismic activity and modeling of alignment versus the expected wave action and wind tide.

#### 4. PERMITTING

- 4-1 An Environmental Assessment will be made by the authorized offices of the Bureau of Land Management to identify impact of the proposed operation inasmuch as it is primarily federal land involved.
- 4-2 Reclamation plans for both the barrow gravel pits and the dike will be detailed once location and alignment has been finalized. All necessary reclamation of areas disturbed during the course of operations will be completed to standards of appropriate county, state and/or federal agencies, and reasonable measures will be taken to prevent unnecessary or undue degradation of the lands during operations.
- 4-3 Should an archaeological (cultural resource) study be required in the gravel barrow pit areas and dike onramps, a federal and state approved contractor will be selected to supply the necessary data.

#### 5. COSTS AND TIME SCHEDULE

- 5-1 Dependent upon final dike alignment, the following cost estimates are considered to be reasonable:

Engineering	50,000
Fill @ \$3/yd <sup>3</sup>	480,000
Royalty @ \$.30/yd <sup>3</sup>	48,000
Reclamation-pits	40,000
Wier Construction	100,000
Mgmt-Ins-Conting.	<u>180,000</u>

TOTAL \$898,000

Engineering and dike construction is scheduled to commence June 1, 1986 and proceed through completion by late fall.

6. NOTES AND ADDITIONAL DATA

- 6-1 Top of dike would be located at elevation 4,527 feet m.s.l. with maximum water level at 4,523 feet m.s.l.
- 6-2 Undrained shearing strength of 350 psf based upon Great Salt Lake dike models is predicted. Lake bottom stability is expected. Side slopes of 3:1 is dictated.
- 6-3 Settlement considerations: Total unit weight of the dike material is calculated to be 140 pounds per cubic foot. The dike will have an anticipated settlement of between 15 and 18 inches. Coefficient of consolidation is considered to be 0.03 feet squared per day. Ninety percent consolidation should occur within one year of loading.
- 6-4 Seepage considerations: Permeability of the fill material indicates that maximum seepage through the dike should not exceed 8,000 acre feet per year.
- 6-5 Foundation considerations: It is anticipated that a rock base could be required to support the dike embankment in areas of poorer than average lake bottom stability. This factor may be overcome by staged construction as described in Section 2-7.

7. INFRASTRUCTURE AND EXISTING FACILITIES

- 7-1 An operations campsite consisting of camp and office trailers with storage facilities for fuel, lubricants and water will be placed at or near existing access roads peripheral to the proposed work areas.

All trash and waste products will be burned, buried and/or removed as the need arises. No campsite will have permanent structures erected thereon. No campsite will be abandoned until a complete cleanup has been accomplished. All waste products will be containerized or kept in a secure holding area and disposed of in a manner compatible with existing county, state and federal rules and regulations.

- 7-2 Access routes: (reference Map No. U36U-271e)

U.S. Highway 6-50 west out of Delta, including those limited access roads to catchment reservoirs along the north flank of Sevier Dry Lake.

State Highway 257 south out of Delta, including those access roads to Sevier Dry Lake and catchment reservoirs.

Black Rock-Garrison road west out of Black Rock, including those limited access roads to catchment reservoirs.

Black Hills Well road connection U.S. Highway 6-50 and the Black Rock-Garrison road, including those limited access roads to catchment reservoirs, wells and watering areas.

West flank Cricket Mountains road connecting State Highway 257, U.S. Highway 6-50 and the Black Rock-Garrison road, including those limited access roads to catchment reservoirs.

- 7-3 There are no new access roads contemplated. Certain limited access roads, particularly those near the lake edge may require upgrading by addition of road metal as pea gravel, blading and compaction. Any damage caused by increased travel related to the dike construction will be repaired. A regular access road maintenance schedule is anticipated.

- 7-4 Access to the construction site is expected to be via the graded and well maintained Headlight Canyon road 10.5 miles to the junction with the West Flank Cricket Mountain road, thence 3 miles west via limited access road to the Cricket No. 2 reservoir where the project campsite is to be placed.

During dike construction approximately ten car trips per day are anticipated over this route. Heavy trucks and equipment will travel in at the beginning of construction and exit upon completion. Fuel and repair vehicle road transit is not expected to exceed one round-trip per week.

- 7-5 An existing unmaintained limited access road from Cricket No. 2 reservoir northward to Sections 31 and 32 will require upgrading from the proposed campsite to the gravel barrow pits area. Such upgrading will consist of addition of road metal as pea gravel, blading and compaction in areas of soft and sandy surface material.

Mining Plan of Operations  
Sevier Dry Lake  
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8. PROPOSED OPERATIONS LOCATION

8-1 Dike Alignment (includes alternates)

Township 22 South, Range 12 West, SLM - portions of  
Sections 13, 14, 23, 24, 25 and 36; and

Township 22 South, Range 11 West, SLM - portions of  
Sections 19, 29, 30 and 31.

8-2 Barrow Pit

Township 22 South, Range 11 West, SLM - portions of  
Section 32.

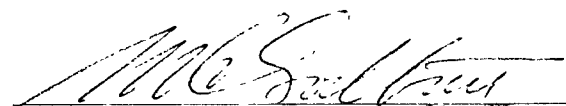
8-3 Amount of land disturbance based upon maximum dike alignment:  
23 acres.

8-4 Amount of land disturbance based upon barrow fill gravel  
excavation: 20 acres

9. PROPOSED CONSTRUCTION PERIOD

Starting Date : June 1, 1986

Completion Date: April 1, 1987

  
\_\_\_\_\_  
Signature of Claimant/Operator

Address: 1012 Newhouse Building  
Salt Lake City, UT 84111  
Telephone: (801) 532-2506

Attachment:  
Map No. U36U-271e